REMARKS

[0001] Applicant's attorney respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-32 are presently pending. Claims 1, 3, 8, 14, 20, 25, and 32 are amended herein.

Allowable Subject Matter

[0002] Applicant would like to thank the Examiner for allowing claims 5-7 and 29-31. These claims have not been amended herein, and therefore remain allowable.

Substantive Matters

Claim Rejections under § 103

[0003] The Examiner rejects claims 1-4, 8-28, and 32 under § 103. For the reasons set forth below, the Examiner has not made a prima facie case showing that the rejected claims are obvious.

[0004] Accordingly, Applicant's attorney respectfully requests that the § 103 rejections be withdrawn and the case be passed along to issuance.

[0005] The Examiner's rejections are based upon the following references in combination:

- **US Patent No. 5,796,535 to Tuttle et al:** *"Tuttle et al"* hereinafter, (issued August 18, 1998); and
- **US Patent No. 5,862,005 to Leis et al:** *"Leis et al"* hereinafter, (issued January 19, 1999).

Obviousness Rejections

Lack of *Prima Facie* Case of Obviousness (MPEP § 2142)

[0006] Applicant disagrees with the Examiner's obviousness rejections. Arguments presented herein point to various aspects of the record to demonstrate that all of the criteria set forth for making a *prima facie* case have not been met. To establish *prima facie* obviousness of a claimed invention, all of the claim recitations must be taught or suggested by the prior art[1] and "all words in a claim must be considered in judging the patentability of that claim against the prior art."[2] Further, if prior art, in any material respect teaches away from the claimed invention, the art cannot be used to support an obviousness rejection.[3] Moreover, if a modification would render a reference unsatisfactory for its intended purpose, the suggested modification / combination is impermissible.[4]

Based upon *Tuttle et al* and *Leis et al*

[0007] The Examiner rejects claims 1-4, 8-28, and 32 under 35 U.S.C. § 103(a) as being unpatentable over *Tuttle et al* and *Leis et al*. Applicant's attorney respectfully traverses the rejection of these claims and asks the Examiner to withdraw the rejection of these claims.

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[1] *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)

[2] *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)

[3] *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed Cir. 1997)

[4] See MPEP § 2143.01

Independent Claim 1

[0008] Applicant's attorney submits that the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements as recited in this claim. In specific, claim 1, as amended, recites a servo wedge located at the beginning of the disk sector, the servo wedge having a portion that does not include a zero-frequency field and that is detectable during a spin-up of the disk without a prior detection of a zero-frequency field, and the servo wedge operable to provide an initial position of a read-write prior to any read-write operation head relative to the disk after detection of the portion. As is discussed further below, such a servo wedge may fulfill two functions that conventional systems can only accomplish with two separate sections on a disk. Namely, the servo wedge may contain data for initially assisting with determining the initial position of the read head during a spin-up operation (*e.g.*, prior to any read/write operation) and the servo wedge also contains information for identifying the actual sector when the read head is engaged in a read/write operation.

[0009] For example, in an embodiment, referring, *e.g.,* to FIGS. 4 and 6 and paragraphs 22, 31, 34-52 and 54 of the present application as an example, in an embodiment a servo wedge 22 includes a preamble 74 that does not include a zero frequency field. During spin up operation of the disk, a servo circuit 30 exploits the properties of a sinusoid to detect the preamble 74 without the need to first detect a zero frequency field. Once the preamble 74 is detected then a disk-drive controller may read the sector and track IDs 80 and 82 to determine an initial position of a read-write head over the disk. In detecting this section of the

servo wedge, the servo circuit can determine the initial position of the read head which is task that may be accomplished before any data may be read from the disk (*i.e.*, prior to any read operation). This is the first task as mentioned previously that may be accomplished using this particular servo wedge.

[0010] Then, after the position of the read head is determined with respect to the disk, a read/write operation may be accomplished. Thus, the same servo wedge may contain additional information about the particular sector so that a read operation can determine which servo wedge in which data is to be read or written. That is, the same servo wedge includes not only the bit pattern for initial spin-up operations (without using a zero-frequency field), but also specific sector identification data for the eventual read/write operations. As a result, the disk's data-storage capacity can be increased by eliminating any need for dedicated servo fields having any zero-frequency fields that can only be used for determining the initial position of the read head during a spin-up operation.

[0011] The Examiner correctly acknowledges that *Tuttle et al* does not teach this recitation. However, *Leis et al* does not rise to the level of teaching this recitation either, especially within the context of claim 1. *Leis et al* teaches two separate kinds of data fields on a disk. Referring to column 7, lines 7-18, Lies et al teaches several data track zones 70 that are separate and distinct from the servo wedges 68. That is, *Leis et al* still relies on conventional manners for using the preamble of the servo wedges for establishing a correct gain and phase lock during a spin-up operation. All data to be read or written is in a completely different sector, namely the data track zones 70. As a result, there is great

inefficiency in requiring several servo wedges with bit patterns dedicated solely to assisting with a spin-up operation.

[0012] Further, *Leis et al*, teaches that various DC-offset fields (zero-frequency fields) may be optional in a servo wedge. *Lies et al* is completely silent with respect to any spin-up operation as the underlying invention of *Lies et al* deals more with the read/write operation of the system. There is nary a mention of why such a DC field may be optional, but as Lies et al teaches a conventional means for initially determining the position of a read heads during a spin-up operation (which must be presumed since *Lies et al* does not explain how this occurs anywhere), then it must do so by locating the DC-erase field that is at least in one or more servo wedges. Thus, despite using the term "optional," *Leis et al* only refers to a servo wedge that could not be used during a spin-up operation. This is because not all servo wedges in *Lies et al* need to be used during a spin-up operation. Thus, as long as at least one or more servo wedges has the zero-frequency field, the system of Lies et al can correctly determine the initial position of a read head during spin-up.

[0013] Furthermore, the mention of the optional nature is merely passing and cannot be used to support any motivation to combine. That is, there is no reason as to why a skilled artisan would look to *Leis et al* just for the sake of omitting a DC-erase field without having some teaching or suggestion as to why it is beneficial to not include this filed, namely, it does not follow how could one go about determining the initial position of the read head during a spin-up operation without using a zero-frequency field using the teachings of Lies et al which does not address, in any manner, a spin-up operation. Such broad,

conclusory statements do not come close to adequately addressing the issue of motivation to combine, are not evidence of obviousness, and therefore are improper as a matter of law. *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

[0014] Moreover, applicants submit that the Office action is using hindsight reasoning. As a matter of law, obviousness may not be established using hindsight obtained in view of the teachings or suggestions of the applicants.[1] To guard against the use of such impermissible hindsight, obviousness needs to be determined by ascertaining whether the applicable prior art contains any suggestion or motivation for making the modifications in the design of the prior art article in order to produce the claimed design. The mere possibility that a prior art teaching could be modified or combined such that its use would lead to the particular limitations recited in a claim does not make the recited limitation obvious, unless the prior art suggests the desirability of such a modification.[2]

[0015] As shown above, the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

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[1] *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551, 1553, 220 USPQ 303, 311, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

[2] *See In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Dependent Claim 2

[0016] This claim ultimately depends upon independent claim 1. As discussed above, claim 1 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, claim 2 may also be allowable for additional independent reasons.

Independent Claim 3

[0017] Applicant's attorney submits that the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements as recited in this claim. In specific, claim 8, as amended, recites servo wedges each detectable by a read head upon initial spin-up prior to any read-write operation and each detectable by a read head during a read-write operation to identify a respective disk sector. As shown above, the combination of *Tuttle et al* and *Leis et al* does not teach or suggest anything with respect to a spin-up operation. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Dependent Claim 4

[0018] This claim ultimately depends upon independent claim 3. As discussed above, claim 3 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, claim 4 may also be allowable for additional independent reasons.

Independent Claim 8

[0019] Applicant's attorney submits that the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements as recited in this claim. In specific, claim 8, as amended, recites servo wedges located in the disk sectors and each having a respective location identifier, respective position bursts, and a respective other portion, the other portion of each servo wedge substantially the same as the other portions of all the other servo wedges, the location identifier detectable during a read-write operation and the other portion detectable during a read head positioning operation. As shown above, the combination of *Tuttle et al* and *Leis et al* does not teach or suggest anything with respect to a read head positioning operation. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Dependent Claim 9-13

[0020] These claims ultimately depend upon independent claim 8. As discussed above, claim 8 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 14

[0021] Applicant's attorney submits that the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements as recited in this claim. In specific, claim 14, as amended, a processor coupled to the servo channel and

operable to detect one of the servo wedges without a zero-frequency field during spin up operation of the disk. As shown above, the combination of *Tuttle et al* and *Leis et al* does not teach or suggest anything with respect to a read head positioning operation. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Dependent Claim 15-19

[0022] These claims ultimately depend upon independent claim 14. As discussed above, claim 14 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 20

[0023] Applicant's attorney submits that the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements as recited in this claim. In specific, claim 20 recites, as amended, a processor coupled to the servo channel and operable to detect the servo wedge without a zero-frequency field during a spin up of the disk and prior to any read operation while or after the disk attains an operating speed but before the servo channel recovers any servo data. As shown above, the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Dependent Claim 21-24

[0024] These claims ultimately depend upon independent claim 20. As discussed above, claim 20 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 25

[0025] Applicant's attorney submits that the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements as recited in this claim. In specific, claim 25 makes a distinction between a spin-up operation and a read/write operation which is not taught or suggested by the prior art of record As shown above, the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Dependent Claim 26-28

[0026] These claims ultimately depend upon independent claim 25. As discussed above, claim 25 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally,

some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 32

[0027] Applicant's attorney submits that the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements as recited in this claim. In specific, claim 32 makes a distinction between a spin-up operation and a read/write operation which is not taught or suggested by the prior art of record As shown above, the combination of *Tuttle et al* and *Leis et al* does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant's attorney asks the Examiner to withdraw the rejection of this claim.

Conclusion

[0028] All pending claims are in condition for allowance. Applicant's attorney respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action**. Please call or email me at your convenience.

[0029] Any additional fees required as a result of this amendment have been paid from the below-referenced deposit account as filed herewith. Should further payment be required to cover such fees you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

Respectfully Submitted,

Graybeal, Jackson, LLP
Representatives for Applicant

/Kevin D Jablonski/ Dated: March 16, 2010

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